

## PATENT APPLICATION TRANSMITTAL LETTER

(Small Entity)

Docket No.

G01/4

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Transmitted herewith for filing under 35 U.S.C. 111 and 37 C.F.R. 1.53 is the patent application of:

EZ HALAHMI and ERAN FUCHS

For: E-MAIL PROXY

Enclosed are:

- ☐ Certificate of Mailing with Express Mail Mailing Label No.  
☒ 4 sheets of drawings.  
☐ A certified copy of a application.  
☒ Declaration ☒ Signed. ☐ Unsigned.  
☒ Power of Attorney  
☐ Information Disclosure Statement  
☐ Preliminary Amendment  
☒ 1 Verified Statement(s) to Establish Small Entity Status Under 37 C.F.R. 1.9 and 1.27.  
☒ Other: ASSIGNMENT WITH COVER SHEET (\$40)

## CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	18	- 20 =	0	x \$9.00	\$0.00
Indep. Claims	2	- 3 =	0	x \$39.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$345.00
TOTAL FILING FEE					\$385.00

- ☒ A check in the amount of \$385.00 to cover the filing fee is enclosed.  
☐ The Commissioner is hereby authorized to charge and credit Deposit Account No. as described below. A duplicate copy of this sheet is enclosed.  
☐ Charge the amount of as filing fee.  
☐ Credit any overpayment.  
☐ Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.  
☐ Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated:

5 - Sept - 00

Signature

D'VORAH GRAESER  
REG. NO. 40,000  
DR. D. GRAESER LTD.  
C/O THE POLKINGHORNS  
9003 FLORIN WAY  
UPPER MARLBORO  
MARYLAND 20772  
USA

cc:

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY  
STATUS (37 CFR 1.9(f) AND 1.27 (c)) - SMALL BUSINESS CONCERN**

Docket No.  
**G01/4**

Serial No.

Filing Date

Patent No.

Issue Date

Applicant/ **EREZ HALAHMI and ERAN FUCHS**  
Patentee:
Invention: **E-MAIL PROXY**

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:
- ☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: **GATON TECHNOLOGIES LTD.**ADDRESS OF CONCERN: **PO BOX 193, MOSHAV BNEI TZION 60910, ISRAEL**

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above identified invention described in:

- ☒ the specification filed herewith with title as listed above.
- ☐ the application identified above.
- ☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

SA'AR PLINNER LAW

03 6201469

08/31 '00 16:20 NO.372 07

Page 2 of 2

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization exists.  
☐ each such person, concern or organization is listed below.

FULL NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: EREZ HALAIMI

TITLE OF PERSON SIGNING \_\_\_\_\_

OTHER THAN OWNER: PRESIDENT

ADDRESS OF PERSON SIGNING: 9 FRUG STREET

PETACH TIKVA

ISRAEL

SIGNATURE: 

DATE: 31/8/00

## APPLICATION FOR PATENT

Title: E-MAIL PROXY

Inventors: EREZ HALAHMI and ERAN FUCHS

### 5 FIELD AND BACKGROUND OF THE INVENTION

The present invention is of an e-mail proxy, embodied as a system and a method, for enabling e-mail (electronic mail) messages to be received more quickly and efficiently by the user, and in particular, to such a system and method in which the user is able to separately receive e-mail text messages and  
10 attachments, preferably with streaming transmissions which have already been decoded.

Currently, most computer users (hereinafter also referred to as "users") receive e-mail messages through a connection between a computer and an e-mail server. The e-mail server holds the received e-mail messages for the user, and may  
15 be installed at an ISP (Internet Service Provider), for example. Such servers usually operate according to the POP3 (Post Office Protocol 3) protocol or alternatively according to the IMAP4 (Internet Message Access Protocol, version 4) protocol. The computer of the user must operate an e-mail client, which is a software program for communicating with the e-mail server in order to download  
20 the e-mail messages, and then for displaying these e-mail messages to the user. The e-mail client communicates with the e-mail server according to the POP3 or IMAP4 protocol for receiving e-mail messages, and SMTP (Simple Message Transfer Protocol) for sending (or forwarding) e-mail messages.

The e-mail messages are typically encoded in the standard MIME multi-part message format, which enables the message to optionally also include one or more attachments, for example. Each part of the multi-part message may be separately and differently encoded, for example for plain text messages, as opposed to  
5 attached word processing documents, image files, video data, audio data and so forth. Such a multi-part message may be very large because of the size of the attachment(s).

Unfortunately, the e-mail client currently downloads the entire multi-part e-mail message when connected to the e-mail server for receiving messages. Since  
10 such a multi-part message may be very large, the process of downloading each message may require a significant period of time. Furthermore, the user cannot view each message with attachment(s) if any, until the entire message has been downloaded. If the computer of the user is connected to the e-mail server through a relatively slow, low bandwidth connection, such as a dial-up modem for  
15 example, then this process can be frustratingly slow.

The process is further slowed by the requirement for encoding the attachments in BASE64, in order to prevent the exposure of any control characters in the attachments to any servers which pass the e-mail message through the Internet. The BASE64 encoding method represents every 24 bits of the attachment  
20 with 32 bits, thereby increasing the size of the encoded attachments by about one third. Thus, the currently available mechanism for downloading e-mail messages clearly has a number of drawbacks.

An improved solution to this problem would enable the user to review e-mail messages before downloading them, or at least before downloading the complete multi-part message with attachment(s), as text-only e-mail messages are relatively small and quick to download. The user would still be able to download  
5 attachments of interest. In addition, the improved solution would provide for a streaming process for downloading e-mail attachments, in order for the user to be able to view the e-mail message as it is being downloaded. Unfortunately, such a solution is not currently available.

There is thus a need for, and it would be useful to have, a system and a  
10 method for providing an e-mail proxy, such that user can optionally select particular attachments to download and such that the attachments can be downloaded separately, and which would also optionally and preferably enable the e-mail attachments to be downloaded in a streamed manner, for increased speed and efficiency of downloading.

## SUMMARY OF THE INVENTION

The present invention is of a system and method for providing e-mail messages to a user in a more efficient manner. Specifically, the system and method of the present invention enable attachments to be downloaded separately  
20 from the body of the e-mail message, which is typically text-only and which therefore requires less bandwidth to download. Instead, these attachments are represented by links in the message which is downloaded to the e-mail client of the user, such that the user can "click on" or otherwise select a link in order to retrieve

the attachment. Preferably, the attachment is downloaded to the computational device of the user in a streamed manner, for example according to the HTTP (HyperText Transfer Protocol) protocol.

According to the present invention, there is provided a method for

5 selectively downloading a multi-part e-mail message to an e-mail client operated by a user from an e-mail server, the multi-part e-mail message including an attachment, the method comprising the steps of: (a) retrieving at least attachment information for the multi-part e-mail message from the e-mail server; (b) preparing a formatted message for sending to the e-mail client, the formatted message

10 containing at least a link to the attachment, such that the attachment is not sent to the e-mail client; (c) sending the formatted message to the e-mail client; and (d) displaying the formatted message to the user by the e-mail client.

According to another embodiment of the present invention, there is provided a system for selectively downloading a multi-part e-mail message for a

15 user, the multi-part e-mail message including an attachment, the system comprising: (a) an e-mail server for receiving the multi-part e-mail message; (b) an e-mail proxy in communication with the e-mail server for receiving at least attachment information about the multi-part e-mail message, and for preparing a formatted message containing a link to the attachment; and (c) an e-mail client in

20 communication with the e-mail proxy for receiving the formatted message and for displaying the formatted message to the user, such that the attachment is displayed to the user after the user selects the link.

Hereinafter, the term "network" refers to a connection between any two or more computational devices which permits the transmission of data.

Hereinafter, the term "computational device" includes, but is not limited to, personal computers (PC) having an operating system such as Windows™, OS/2™  
5 or Linux; Macintosh™ computers; computers having JAVA™-OS as the operating system; graphical workstations such as the computers of Sun Microsystems™ and Silicon Graphics™, and other computers having some version of the UNIX operating system such as AIX™ or SOLARIS™ of Sun Microsystems™; or any other known and available operating system, or any device, including but not  
10 limited to: laptops, hand-held computers, PDA (personal data assistant) devices, cellular telephones, any type of WAP (wireless application protocol) enabled device, wearable computers of any sort; and any device which can be connected to a network as previously defined and which has an operating system. Hereinafter, the term "Windows™" includes but is not limited to Windows95™, Windows  
15 NT™, Windows98™, Windows CE™, Windows2000™, and any upgraded versions of these operating systems by Microsoft Corp. (USA). It is understood that the term "computer", as used herein, may refer to substantially any computational device.

For the present invention, a software application could be written in  
20 substantially any suitable programming language, which could easily be selected by one of ordinary skill in the art. The programming language chosen should be compatible with the computational device according to which the software



application is executed. Examples of suitable programming languages include, but are not limited to, C, C++ and Java.

In addition, the present invention could be implemented as software, firmware or hardware, or as a combination thereof. For any of these

5 implementations, the functional steps performed by the method could be described as a plurality of instructions performed by a data processor.

### BRIEF DESCRIPTION OF THE DRAWINGS

10 The invention is herein described, by way of example only, with reference to the accompanying drawings, wherein:

FIG.1 is a schematic block diagram of an exemplary system according to the present invention;

FIG. 2 is a flowchart of an exemplary method according to the present invention.

15

### DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is of a system and method for providing e-mail messages to a user in a more efficient manner. Specifically, the system and method of the present invention enable attachments to be downloaded separately  
20 from the text-part of the e-mail message, which is typically text-only and which therefore requires less time to download. Instead, these attachments are represented by links in the message which is downloaded to the e-mail client of the

user, such that the user can “click on” or otherwise select a link in order to retrieve the attachment.

According to a further preferred embodiment of the present invention, the attachment is downloaded to the computational device of the user in a streamed  
5 manner. For example, the attachment could be downloaded according to the HTTP protocol, and then displayed by a Web browser which is operated by the computational device of the user. This has the advantage of enabling the user to view the attachment as it is being downloaded, rather than being required to wait for the entire attachment to be downloaded before viewing any part of it.  
10 Optionally, the attachment could also be downloaded to the e-mail proxy in the background, as a separate procedure from the downloading of the text-part, or even “on the fly” according to the request of the user, depending upon the e-mail protocol which is used.

The principles and operation of the present invention may be better  
15 understood with reference to the drawings and the accompanying description. The present invention is operative with any e-mail protocol, including but not limited to, IMAP4 and POP3 protocols for receiving e-mail messages. The POP3 protocol is explained in RFC1725, while the IMAP4 protocol is explained in RFC2060, both from the Network Working Group, although of course the scope of the  
20 present invention is not limited to operation with these protocols.

Referring now to the drawings, Figure 1 is a schematic block diagram of a system according to the present invention for more rapidly and efficiently retrieving e-mail messages, particularly multi-part messages. A system **10** features

a user computational device **12** which operates an e-mail client **14**, and optionally also operates a Web browser **16**. E-mail client **14** can optionally be implemented as any type of software program which is able to communicate according to standard e-mail messaging protocols, such as POP3 and IMAP4 for example. A  
5 non-limiting example of such a software program is the Outlook™ program (Microsoft Corp., USA). The user is able to interact with e-mail client **14** and optionally with Web browser **16**. User computational device **12** is connected to a network **18**, such as the Internet for example, through which user computational device **12** is in communication with an e-mail proxy **20**. E-mail proxy **20**, in turn,  
10 is in communication with an e-mail server **22**.

When the user wishes to retrieve one or more e-mail messages, the user activates e-mail client **14**. According to the background art, e-mail client **14** would communicate directly with e-mail server **22**. However, according to the present invention, e-mail proxy **20** first communicates with e-mail server **22**, in order to  
15 retrieve one or more e-mail messages for the user, either in their entirety or as a portion thereof. E-mail proxy **20** then processes these messages, preferably by removing any attachments and storing them if the entirety of the multi-part message is downloaded. Alternatively, if only a portion of the multi-part message is retrieved, preferably the text-part, e-mail proxy **20** then downloads the  
20 attachments in the background for storage.

E-mail proxy **20** then preferably substitutes a link to the storage location of the attachment in the e-mail message, and passes this modified e-mail message to e-mail client **14** at user computational device **12**. The modified e-mail message is

much smaller, and so can be downloaded much more quickly by user computational device 12.

The user may optionally decide to view one of the attachments, at which point the user preferably “clicks on” or otherwise selects the appropriate link in the e-mail message through e-mail client 14. User computational device 12 then downloads the attachment from e-mail proxy 20. More preferably, the attachment is downloaded to user computational device 12 in a streamed manner, such that the user is able to start viewing each portion of the attachment as it arrives at user computational device 12. Optionally, such streamed downloading is achieved by activating Web browser 16, such that the attachment is then downloaded according to the HTTP protocol, and is displayed to the user through Web browser 16. In any case, in order to increase the speed and efficiency of downloading the attachment, the attachment is most preferably decoded, for example from BASE64 encoding, before being downloaded.

Figure 2 is a flowchart of an exemplary method according to the present invention for retrieving an e-mail message, particularly a multi-part e-mail message.

In step 1, the user enters a command to the e-mail client which is operated by the computational device of the user, in order to read the e-mail “inbox” of the user. According to the background art, in step 2, the e-mail client would communicate with a background e-mail server, for example at an ISP through a dial-up modem connection.

According to the present invention, however, in step 2, the e-mail client communicates with an e-mail proxy, described with regard to Figure 1 above. The e-mail proxy of the present invention communicates with the background art e-mail server in order to receive at least a portion of the multi-part e-mail messages. As explained in greater detail below, according to the POP3 protocol, the complete multi-part e-mail messages, with attachments (if any), are downloaded. Alternatively, according to the IMAP4 protocol, optionally only the header information for the attachments is downloaded, while the attachments themselves are downloaded at a later point (for example, in the background).

The first part of this process occurs in step 3, when the e-mail proxy “logs into”, or gains access permission for, the inbox of the user on the e-mail server. According to the POP3 protocol, the process of “logging in” involves the establishment of a TCP connection between the e-mail proxy and the e-mail server, through a handshake procedure (see for example RFC1725 from the Network Working Group for a description of this protocol). Once the connection has been established, the e-mail server sends a greeting to the e-mail proxy, after which commands may be exchanged for retrieving e-mail messages. These commands typically include sending information from the e-mail proxy to the e-mail server for the purposes of authorization, such as a user name for identifying the inbox and a password, as well as transaction commands for actually receiving the e-mail message(s).

The remainder of the method is explained separately with regard to the POP3 protocol and the IMAP4 protocol. IMAP4 has the advantage of supporting

commands such as “SEARCH”, which enable the e-mail server to return only e-mail messages of interest, such that the e-mail proxy does not need to parse the headers of the e-mail messages in order to determine which e-mail message(s) are of interest. IMAP4 also supports the ability to retrieve only part of the e-mail message directly, with the “FETCH” command. A complex request for part of an attachment can also be sent with the “FETCH” command.

In step 4, if step 3 is successful, the e-mail proxy sends at least one command to the e-mail server to read the inbox of the user. First, the e-mail proxy could send the “STAT” command to determine the total number of message and the total size of these messages. The e-mail proxy then sends the “LIST” command to the e-mail server in order to receive a list of e-mail messages. The received list includes the message identification numbers. The e-mail proxy then downloads the complete multi-part message for the POP3 protocol, but alternatively downloads only the header or headers for the e-mail message(s) by using the “fetch” command for the IMAP4 protocol. More preferably, for the IMAP4 protocol, all of the headers of all of the message-parts for all of the messages are retrieved, such that complete information about all of the messages is obtained, but not the message content.

Step 4, or any part thereof as required, is preferably repeated as necessary such that in step 5, the e-mail proxy receives at least one, but preferably all of the attachments for the e-mail messages which are in the inbox.

Alternatively, the e-mail proxy could download the entirety of each e-mail message, with attachments if any, by sending the “RETR” command to the e-mail

server, thereby combining steps 4 and 5 into a single step if all of the e-mail messages are to be retrieved at once, as according to the POP3 protocol.

Regardless of which type of downloading method is preferred, the e-mail proxy preferably provides some type of identification information, in order for the user to be able to determine which e-mail messages are of interest, for example in order to download the attachment(s) of the e-mail message, if any. The method now splits to two branches. For the left branch, which is performed according to the IMAP4 protocol, the attachment information preferably only features certain header information, while the attachment itself is optionally retrieved separately.

For the right branch, which is performed according to the POP3 protocol, the entirety of the multi-part e-mail message is retrieved, with the attachment. In either case, more preferably the user is presented with at least a portion of the actual text e-mail message, which is not an attachment.

As shown in the left branch, in step 6a, the e-mail proxy optionally and preferably parses the headers of the message, more preferably according to at least one user preference. For example, the user could request to see only the identity of the sender and the subject of the e-mail message. As described with regard to RFC822 and RFC2045 (Network Working Group), the e-mail message has a predefined structure, such that a multi-part message has a main header, followed by the body. The body itself may have a plurality of headers and bodies for each part of the multi-part message, for example for the text-part, as well as for each

attachment. The main header includes fields, which are indicated according to a predefined lexical structure.

5 In step 7a, the e-mail proxy optionally and preferably prepares a formatted message containing the information of interest to be sent to the user computational device for display to the user. In particular, the formatted message preferably contains the text-part, as well as a link to each attachment which is added to the message in the place of each attachment. This step is preferably repeated until all attachments have been replaced by links in the formatted message.

10 In parallel, in step 8a, the e-mail proxy optionally and more preferably starts to download each attachment from the e-mail server, most preferably as a background process. Alternatively, the process of downloading each attachment may be performed "on the fly" upon receiving a request from the user, as described in greater detail below. Once the attachment has been received, it is preferably decoded, as described in greater detail below.

15 Turning now to the right branch, which is performed according to the POP3 protocol, the e-mail proxy receives the entirety of the multi-part e-mail message, including all attachments. In step 6b(1), the e-mail proxy parses the multi-part message to determine the boundaries of each portion. In step 6b(2), when an attachment is found, the header and body of each attachment is removed from the  
20 multi-part message, and the attachment itself is stored at a particular location on the e-mail proxy. More preferably, this step also includes the step of decoding each attachment, for example from BASE64 coding.



The actual method applied for decoding the attachment data depends upon the type of encoding method which was used, as described in RFC2045. For example, BASE64 Content-Transfer-Encoding transforms 24-bit groups of input bits into strings of four encoded characters as the output, according to a table given  
5 in RFC2045. Decoding reverses the procedure, and takes every four encoded characters for transformation back to the original data according to the correspondence which is given in the table. After decoding, the data is in the original content type, such as text for example.

In step 7b, a short one-link to the storage location on the e-mail proxy is  
10 added to the multi-part message, in place of the attachment. Steps 6b(2) and 7b are preferably repeated as necessary in order to replace all such attachments. In step 8b, the formatted message is prepared from the text-only portion of the e-mail message and the links to the location for storing each attachment, which in this case has already been received and stored by the e-mail proxy.

15 In step 9, the e-mail proxy sends the formatted message to the user computational device, preferably including the text-part of the message with link(s) to any attachment(s).

Optionally and more preferably, the e-mail proxy sends the formatted message to the user computational device in a streamed manner. By "streaming" it  
20 is meant that the formatted message is sent without encoding, such that the user computational device can immediately begin to display the formatted message as soon as any portion of it is received. If streaming is used to send the formatted message, then the formatted message is more preferably transmitted according to

HTTP (HyperText Transfer Protocol) commands, such that the formatted message is optionally prepared as an HTML (HyperText Mark-up Language) document for example.

In step 10, the user computational device displays the formatted message,  
5 after which the user is able to determine which additional information is to be retrieved from the e-mail proxy. If the formatted message contains one or more links to an attachment, then in step 11, the user can choose to download an attachment by “clicking on” the link with a mouse or other pointing device, or otherwise selecting the link.

10 In step 12, the attachment is preferably downloaded in a streamed manner, optionally and more preferably by activating a Web browser. The Web browser can then download the attachment through HTTP (HyperText Transfer Protocol) streaming. Downloading the attachment in a streamed manner allows the user to view the attachment through the Web browser as the attachment is being  
15 downloaded, in step 13. Such a streamed manner is particularly useful for large media files which are designed to be played to the user in a streamed manner, such as video and audio files. Furthermore, the amount of time which is required to download these files is also reduced by first decoding the files, such that the  
20 of the size of the data, as previously noted.

While the invention has been described with respect to a limited number of embodiments, it will be appreciated that many variations, modifications and other applications of the invention may be made.

WHAT IS CLAIMED IS:

1. A method for selectively downloading a multi-part e-mail message to an e-mail client operated by a user from an e-mail server, the multi-part e-mail message including an attachment, the method comprising the steps of:

- (a) retrieving at least attachment information for the multi-part e-mail message from the e-mail server;
- (b) preparing a formatted message for sending to the e-mail client, said formatted message containing a link to the attachment, such that the attachment is not sent to the e-mail client;
- (c) sending said formatted message to the e-mail client; and
- (d) displaying said formatted message to the user by the e-mail client.

2. The method of claim 1, wherein said attachment information includes the entirety of the multi-part e-mail message, such that step (b) further comprises the step of separating the multi-part e-mail message into a plurality of portions, including at least a first portion containing the attachment.

3. The method of claim 2, wherein the multi-part e-mail message includes a text-part, such that step (b) further comprises the step of separating the multi-part e-mail message into a second portion containing said text-part, and wherein step (b) includes the step of adding said second portion to said formatted message.

4. The method of claim 3, further comprising the step of:
- (e) selecting said link by the user from said formatted message.

5. The method of claim 4, further comprising the step of:
- (f) downloading said attachment in a streamed manner for viewing by the user.

6. The method of claim 5, further comprising the steps of:
- (g) providing a Web browser for interacting with the user; and
  - (h) displaying said attachment by said Web browser, such that step (f) is performed according to HTTP.

7. The method of claim 5, wherein said attachment is decoded before being downloaded.

8. The method of claim 1, wherein said attachment information is a header for the attachment, such that the method further comprises the step of:

- (e) downloading the attachment from the e-mail server.

9. The method of claim 8, wherein step (e) is performed in parallel to step (b).

10. The method of claim 5, wherein step (e) includes the step of decoding said attachment.

11. The method of claim 1, wherein said attachment information is a header for the attachment, such that the method further comprises the steps of:

- (e) selecting said link by the user from said formatted message;
- (f) downloading the attachment from the e-mail server; and
- (g) downloading said attachment from proxy to client in a streamed manner for viewing by the user.

12. The method of claim 11, further comprising the steps of:

- (h) providing a Web browser for interacting with the user; and
- (i) displaying said attachment by said Web browser, such that step (h) is performed according to HTTP.

13. The method of claim 1, wherein step (a) includes the step of providing an e-mail proxy for communicating with the e-mail server and with the e-mail client, such that steps (a) – (c) are performed by said e-mail proxy.

14. A system for selectively downloading a multi-part e-mail message for a user, the multi-part e-mail message including an attachment, the system comprising:

- (a) an e-mail server for receiving the multi-part e-mail message;
- (b) an e-mail proxy in communication with said e-mail server for receiving at least attachment information about the multi-part e-mail message, and for preparing a formatted message containing a link to the attachment; and
- (c) an e-mail client in communication with said e-mail proxy for receiving said formatted message and for displaying said formatted message to the user, such that the attachment is displayed to the user after the user selects said link.

15. The system of claim 14, wherein said e-mail proxy downloads the attachment with said attachment information.

16. The system of claim 14, wherein said e-mail proxy downloads the attachment separately from said attachment information.

17. The system of claim 14, wherein the multi-part e-mail message contains a text-part, and said formatted message includes said text-part.

18. The system of claim 14, wherein said e-mail proxy downloads and decodes the attachment before the attachment is sent to said e-mail client.

## ABSTRACT OF THE DISCLOSURE

A system and method for providing e-mail messages to a user in a more efficient manner. Specifically, the system and method of the present invention enable attachments to be downloaded separately from the text-part of the e-mail message, which requires less bandwidth to download. Instead, these attachments are represented by links in the message which is downloaded to the e-mail client of the user, such that the user can “click on” or otherwise select a link in order to retrieve the attachment. Preferably, the attachment is downloaded to the computational device of the user in a streamed manner.



Figure 1

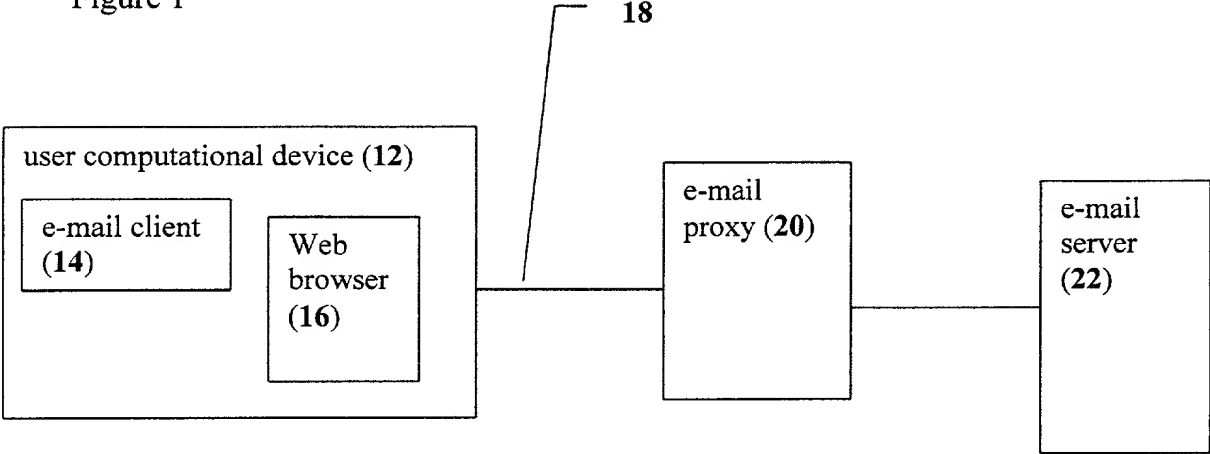


Figure 2

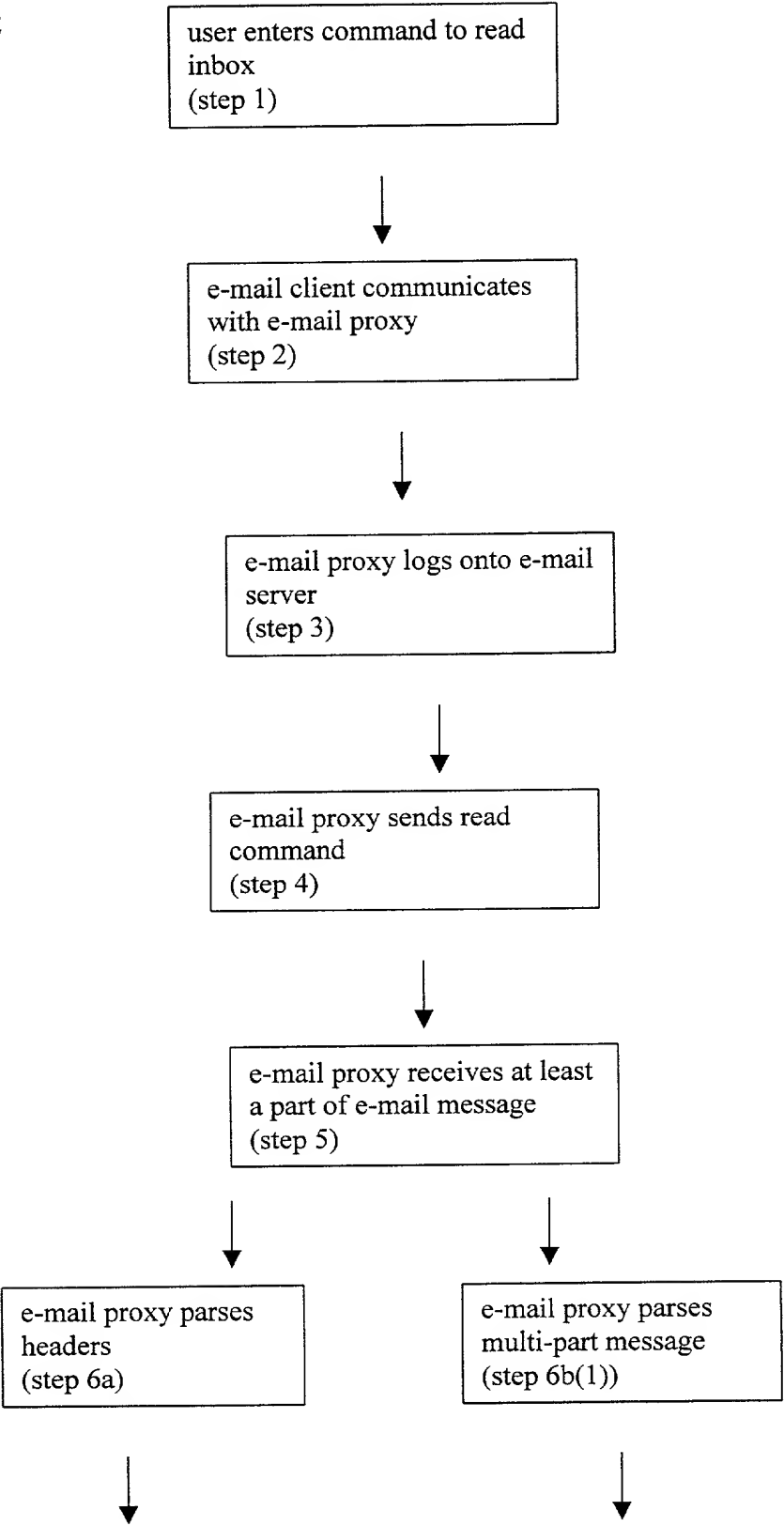


Figure 2 (con't)

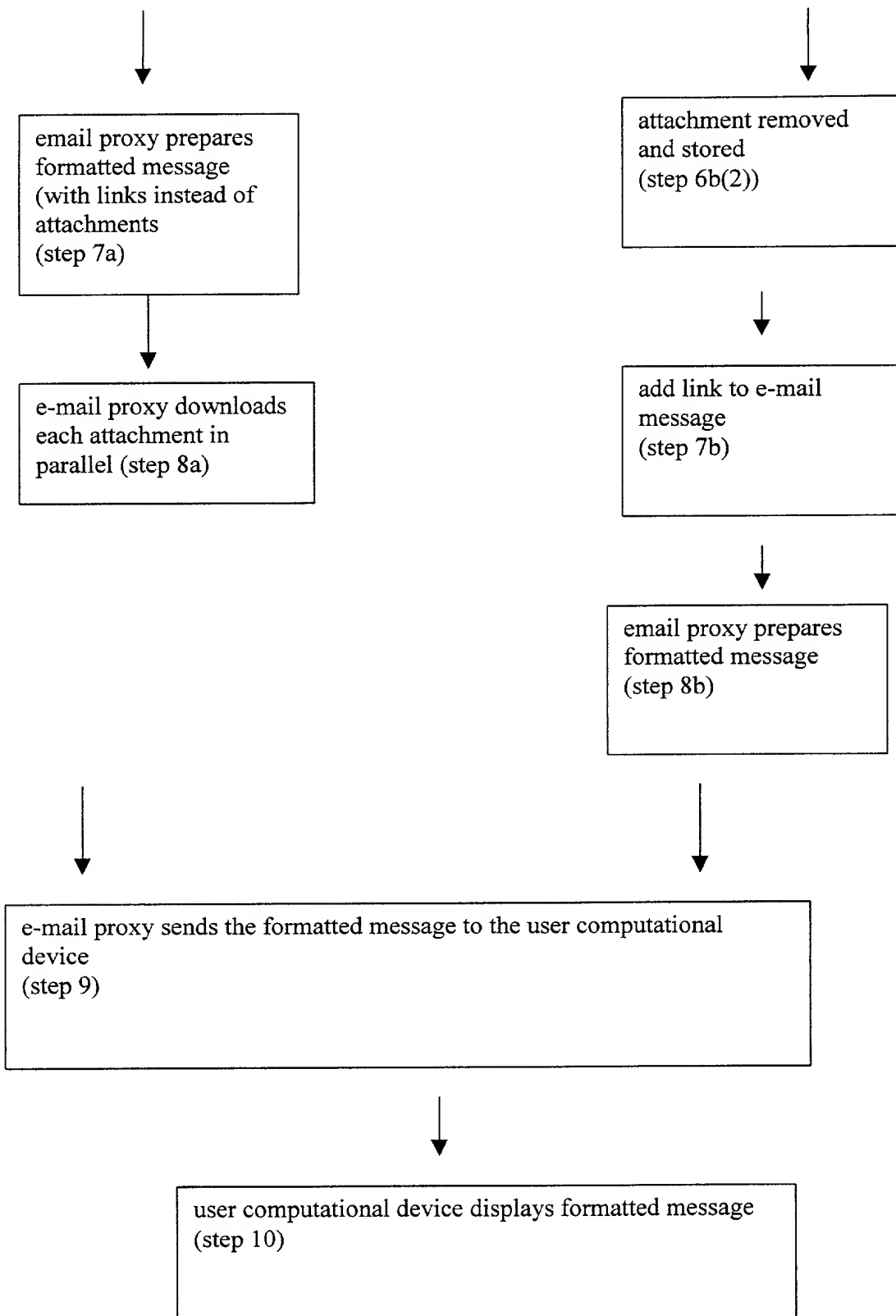
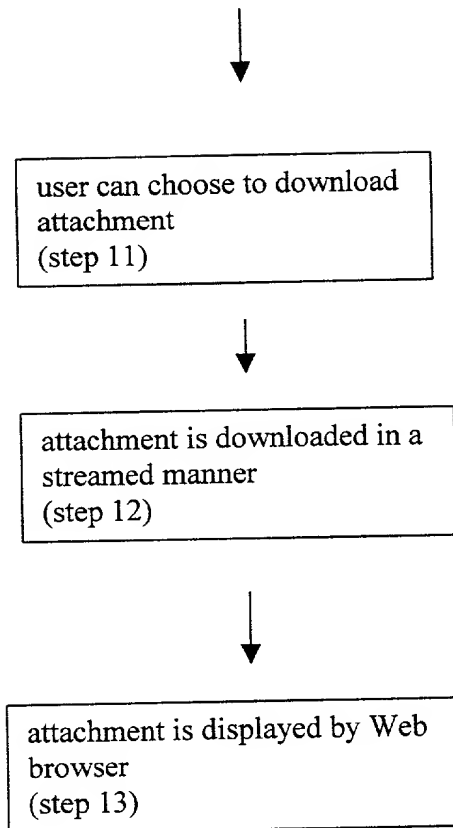


Figure 2 (con't)



Docket No.  
G01/4

# Declaration and Power of Attorney For Patent Application

## English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

**E-MAIL PROXY**

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on \_\_\_\_\_ as United States Application No. or PCT International

Application Number \_\_\_\_\_

and was amended on \_\_\_\_\_

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)

Priority Not Claimed

NA

(Number)

(Country)

(Day/Month/Year Filed)

☐

(Number)

(Country)

(Day/Month/Year Filed)

☐

(Number)

(Country)

(Day/Month/Year Filed)

☐

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

NA	
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SA'AR PLINNER LAW

03 6201469

08/31 '00 16:20 NO.372 05

Page 3 of 3

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

**D'VORAH GRAESER** 40,000

Send Correspondence to: **DR. D. GRAESER LTD.**  
**C/O THE POLKINGHORNS**  
**9003 FLORIN WAY**  
**UPPER MARLBORO, MD 20772, USA**

Direct Telephone Calls to: *(name and telephone number)*  
**THE POLKINGHORNS 301-952-1011**

Full name of sole or first inventor  
**EREZ HALAHMI**  
Sole or first inventor's signature

318.00  
Date

Residence  
**9 FRUG STREET, PETACH TIKVA, ISRAEL**  
Citizenship  
**ISRAELI**  
Post Office Address  
**9 FRUG STREET, PETACH TIKVA, ISRAEL**

Full name of second inventor, if any  
**ERAN FUCHS**  
Second inventor's signature

318.00  
Date

Residence  
**7 KADISH LUZ, KFAR SABA, ISRAEL**  
Citizenship  
**ISRAELI**  
Post Office Address  
**7 KADISH LUZ, KFAR SABA, ISRAEL**